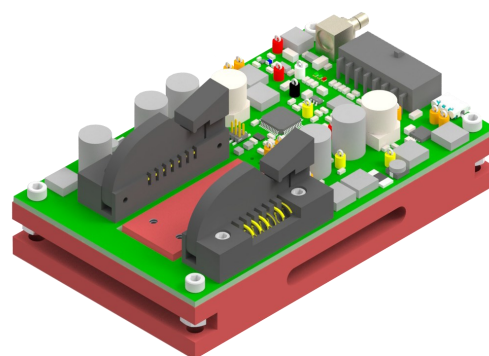


Introduction

The C490 combines an integrated temperature driver and laser driver with full external digital control in one package.

C490 has low current noise for laser current coupled with high efficiency. In addition, external and internal trigger mode are available for pulsed operation. C490 works seamlessly from low duty operation to CW mode.

C490 has full digital temperature control with current and voltage limits. All features can be controlled via USB with SCPI interface.



Specification

Features	<ul style="list-style-type: none"> • 1500 mA max Laser Current • External modulation signal can be applied via SMB connector • Standard Laser Connector Type I, Other types on request • Full digital control with Software included 	
Applications	Spectroscopy, Laser, Precision Instrument, OEM applications	
Specifications	Parameter	Value
Power	Single	+5V, 3A
Laser Current Control	Laser current	0 – 1 500 mA. Set in software or using external voltage.
	Compliance voltage	> 4.0 V
	Setting accuracy	2 % fs
	Noise (RMS)	< 2 μ A
Laser External Control	Trigger	External and internal
	Trigger impedance	10 kOhm
	Interlock	Yes
TEC control	TEC current	0 ... \pm 2.0 A
	TEC voltage	> 4,5V
	Max output power	9 W
	Current limit	0 – 2.0 A, digitally controlled
	Input sensor	10k Thermistor, 7 excitation current settings 10; 50; 100; 250; 500; 1000; 1500 μ A
Connectors	PID control	Fully digital. Typical stability 1mK RMS
	Laser	Integrated Azimuth Electronics 14 pin connector with heat sink. Multiple pinouts can be accommodated with different order request.
	Power	Molex Micro-Fit 16 pin
	Control	Micro USB
Digital Control	Computer control via USB or TTL UART. Can be programmed to start independently without computer connected	
Dimensions (WxHxD)	101.4 x 61.4 x 36.67mm (3.99 x 2.42 x 1.44 Inch) (Height varies dependent on laser package variant)	
Weight	260 g (dependent on laser package variant)	
Storage Temp	-55 to 100 C	
Operating Temp	-40 to 85 C	

Training and support

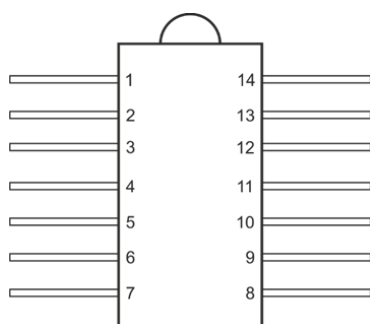
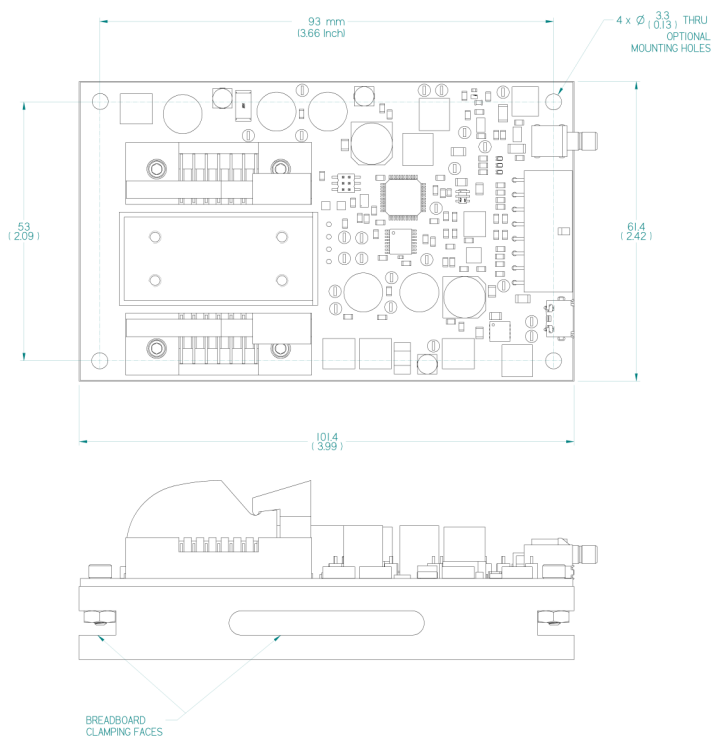
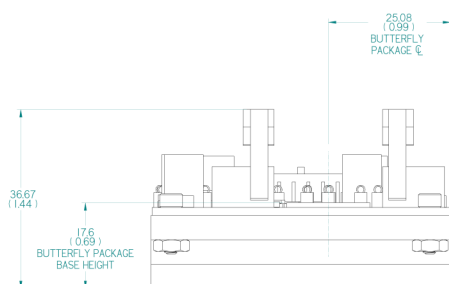
Remote training and support are available. Please contact info@redwavelabs.com for more information.

Absolute Maximum Ratings

Symbol	Parameter	Ratings	Unit
V_{dd1}	Supply positive voltage / Laser driver and TEC	+12±10%	Volt
V_{dd2}	Supply positive voltage / Separate TEC rail	+5; +10%; -0%	Volt
V_{ee}	Supply negative voltage / Laser driver and TEC	-12 ± 10%	Volt
T_{op}	Operational Temperature	-40 to 85	Deg C
T_{st}	Storage Temperature	-55 to 100	Deg C

Mechanical Information

Parameter	Value	Unit
Length	3.99 (101.4)	Inch (mm)
Width	2.42 (61.4)	Inch (mm)
Height	1.44 (36.67)	Inch (mm)
Weight	260	gram



Pin Layout

1	TEC+	14	TEC-
2	TH-	13	Not in use
3	PD+	12	Not in use
4	PD-	11	LD -
5	TH+	10	LD +
6	Not in use	9	Not in use
7	Not in use	8	Not in use